

AMENDMENTS TO THE SPECIFICATION

1. Please replace the first full paragraph on page 5 (line 1), with the following language:

~~Figure 20~~ Figures 20A-G provide[[s]] a schematic of an assembled implant according to this invention.

2. Please replace the second the full paragraph on page 5 (line 3), with the following language:

~~Figure 22~~ Figures 22A-E provide[[s]] a schematic of an assembled implant according to this invention

3. Please delete the twelfth full paragraph on page 5 (lines 17-18):

~~**Figure 31** shows an embodiment of the subject assembled implant supported by a scaffold.~~

4. Please replace the thirteenth full paragraph on page 5 (lines 19-20), with the following language:

~~**Figure 32** Figures 31A-D~~ show[[s]] an additional embodiment comprising segments fastened together through a friction fit.

5. Please replace the fourteenth full paragraph on page 5 (lines 21-22), with the following language:

~~**Figure 33** Figures 32A and B~~ show[[s]] a two-segment assembled implant fastened together through a friction fit.

6. Please replace the fifteenth full paragraph on page 5 (lines 23-24), with the following language:

~~**Figure 34** Figures 33A-C~~ show[[s]] an embodiment that comprises two segments that interlock together in a transverse cross-over configuration.

7. Please replace the second full paragraph page 18 (line10 to page 19, line 2), with the following language:

In a further embodiment according to this invention, assembled cortical bone blocks, or

cortical cancellous bone blocks, or bone blocks comprised of a combination of cortical bone, cortico-cancellous bone, cancellous bone, and/or synthetic materials as described elsewhere herein, are assembled in combination with wedged or pinned soft tissue, such as tendon, ligament, skin, collagen sheets, or the like, to create grafts similar to naturally occurring tissue sites, such as the bone-tendon interface found at the patella. Such combination implants permit reconstruction of sites such as the Anterior Cruciate Ligament (ACL) or Posterior Cruciate Ligament (PCL). According to one embodiment of the invention, a ligament or tendon or skin or collagen sheet membrane is pinned between adjacent blocks of cortical bone. Accordingly, various implants, such as known bone-tendon-bone implants which are in short supply may be supplanted by assemblage of an implant comprising assembled bone blocks, between which is fixed a ligamentous tissue, including but not limited to ligament, tendon, demineralized bone, and the like. Referring to figure 27, there is shown one example of this embodiment of the present invention in which an implant **2700** is assembled from a superior bone block **2701**, an inferior bone block **2702** and a wedged flexible tissue, such as a ligament or tendon or portion of demineralized bone **2704**, all of which are pinned together with cortical bone pins **2703** or other fixation means. The superior bone block, **2701**, is comprised of three segments on bone, ~~**2701a-c**~~, pinned together by a pin ~~**2715**~~. Naturally, those skilled in the art will appreciate, based on this disclosure, that other shapes of bone blocks, such as rounded bone blocks, and other types of combinations of soft and hard tissues may be assembled according to this disclosure. However, the example of such an implant **2700** may be used instead of having to harvest a bone-tendon-bone implant from cadaveric knees, which tissue is in short supply.

8. Please replace the last full paragraph on page 21 (lines 19-27) with the following language:

An allograft segment as described above can be combined with other allograft segments as exemplified in Figure 29. Figure 29 shows a first segment, **2901**, that is fully mineralized, and a second segment, **2903**, that is also fully mineralized. Positioned between these segments is a mixed allograft segment, **2902**, such as described above in Figure 28. Two pins, **2904**, are used to secure the three segments together. Once

assembled, this allograft assembly can be used in a patient in need of a degree of flexibility in the A-A dimension. Such flexibility is provided largely by the flexibility of the partially or fully demineralized side regions of the mixed composition allograft segment, **2904** **2902**. Additional flexibility may be provided by the flexibility of the pins, **2904**, and the spacing between the segment, **2905**.

9. Please replace the first full paragraph on page 24 (lines 1-10), with the following language:

For example, a synthetic sheet may be used to wrap around a MCS or AMCS to support bone growth. Alternately, synthetic scaffolding may be rods or bars or the like, which pass through in-line holes in the respective segments. Alternately, synthetic scaffolding may be in the form of a frame that surrounds or encompasses the bulk of each segment, or the bulk of the demineralized segments, MCS, or AMCS that have flexible regions requiring structural support in the particular application in a patient in need thereof. This is employed, for instance, to add structural integrity to or around one or more segments, at least one of which has a high percentage of demineralized bone, or is otherwise in need of such additional structural support. ~~Examples of synthetic scaffolding designs, which are not meant to be limiting, are provided in Figure 31.~~

10. Please replace the second full paragraph on page 24 (lines 11-23), with the following language:

Another aspect of the invention is an assembled graft implant that is formed from at least three segments that interlock along abutting edges with one another. The shape of each segment is such that upon final assembly the major plane of each segment is non-coplanar in relation to the other segments, e.g., the segments do not lie parallel to one another. For example, Figure ~~32~~31A shows a four-piece assembled graft implant, **3200**, forming a roughly circular shape. This is made of segments **3201**, **3202**, **3203**, and **3204**. Each segment has a male edge, **3205**, and female edge, **3206**, as shown in Figures 31B and 31C, which are designed to mate with an adjoining edge. One male edge slides into a female edge of an adjacent segment, and this process continues for other edges to complete a desired assembly. When the joints of the edges interlock, as shown in Figure

~~32-31A~~, the joints hold the segments together.

11. Please replace the third full paragraph on page 24 (lines 24-26), with the following language:

In a preferred embodiment, assembling three or more segments results in the formation of a central channel. A central channel, **3207**, is shown in Figure ~~32-31D~~. A central channel can be filled with osteogenic material, or may serve other purposes.

12. Please replace the second full paragraph on page 25 (lines 12-19) with the following language:

Another interlocking embodiment is two arcuate shaped segments, each having two edges of opposing interlocking edges. The edges are interlocked to form a circular or truncated circular shape, preferably with a central channel within. When the arcuate shape is a semicircle, the assembled graft is a circular. Examples, not meant to be limiting, are shown, in ~~Figure 33~~ Figures 32A and 32B, wherein segment **3300** is interlocked with segment **3310** thereby forming a channel **3320**. The two embodiments shown comprise different interlocking configurations **3330**.

13. Please replace the third full paragraph on page 25 (line 21 through page 26 line 6), with the following language:

Referring to ~~Figure 34~~ Figures 33A and 33C, another interlocking embodiment of an assembled allograft is shown as **3400**, whose final cross-sectional shape is a 'tee-' or 'cross'. The embodiment comprises at two individual segments **3401** and **3402**, as shown in Figures 33A and 33B, that comprise a slot **3405** longitudinally defined thereon. Thus, the segments comprise a body portion **3406** and a slotted portion **3407**, as shown in Figures 33B and 33C. When the segments are assembled they form a bone block by interlocking pieces **3401** and **3402** together. As shown, the assembled implant presents four fins, **3410a-d**, that radiate from center point, **3403**. The preferred length of the assembled allograft, **3400**, is approximately 2.5 mm, and the preferred diameter may range from approximately 2.0 and 12.0 mm. This assembled allograft is used for various applications where bone blocks are used. Preferably, embodiment **3400** is used in

conjunction with bone-tendon-bone grafts. When used in bone-tendon or bone-tendon bone applications, preferably two separate flexible bands (natural or synthetic) are looped over the top of the embodiment **3400** wherein one band contacts fins **3410a** and **c**, and the second band contacts fins **3410b** and **d**. When the bone block **3400** is positioned into a channel, such as a bone tunnel formed in a patient, the two bands are compressed against the fins **3410a-d** and thereby secured into place. Alternatively, the ends of the fins can comprise teeth or are otherwise irregular to further prevent slippage of the bands.